

PLEASE AMEND THE CLAIMS AS FOLLOWS:

1-29. (Canceled)

30. A method for detecting precancerous and cancerous cells in a cell population, said cell population obtained from tissue having an uppermost surface and tissue containing areas below said uppermost surface, said method comprising the steps of:

(a) obtaining a cell population from tissue of said uppermost surface and from said areas below said uppermost surface using a brush comprising bristles having sufficient stiffness to penetrate said uppermost surface;

(b) analyzing said cell population using computer analysis said computer analysis further comprising the step of selecting a group of cells that are ranked highest for being abnormal cells based on morphology;

(c) plotting a DNA ploidy histogram based on the ploidy of said cell population; and

(d) determining the ploidy of said highest ranked cells on a cell by cell basis.

31. The method of claim 30, wherein said cell population is retrieved from epithelial tissue, wherein said bristles remove cells from at least two layers of said epithelial tissue.

32. The method of Claim 1, further comprising the step of determining a pre-cancerous or cancerous condition based on said determination of ploidy.

33. The method of Claim 1, wherein the ploidy of said highest ranked cells on a cell by cell basis is determined relative to normal looking cells found within the same population of cells.

34. The method of Claim 1, wherein a light indicator on said histogram alerts a pathologist as to the DNA ploidy of a cell of interest.